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THE
Comparative Longevity
OF THE
SEXES.



*Compliments of
the author*

→ THE →
COMPARATIVE LONGEVITY
of the
→ SEXES. →

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THE COMPARATIVE LONGEVITY OF THE SEXES.

MRS. A. B. BLACKWELL.

A new grouping of statistics, the earliest of modern date equally with the latest, proves beyond question that females are endowed with longevity superior to males. Extended tables have been prepared from the census returns of many countries, covering various periods of time; and they uniformly teach the following conclusions:—

1. All ages included, the sexes are about equal in numbers. The old countries have an excess of women, the new of men. Statistics of emigration added to the population of the countries migrated from, or subtracted from those migrated to, confirm this law. So do all aggregates, giving a due proportion of the older and newer States; and the larger the aggregates, the more marked becomes this constant equation.

2. But the sexes are not equal in numbers at the same ages respectively. At all the early ages, males are habitually in excess. At all the late ages females are habitually in excess; and the larger the aggregates at the same ages, the greater is the numerical inequality. At one probably more or less variable period toward early middle life there must, therefore, be a time when, other things equal, the sexes in any country will be numerically equal at the same age.

3. The younger the age compared, the larger, other things equal, is the relative proportion of males. More boys are born; but the excess diminishes from birth onwards in something like a regular gradation, modified, after a few years, by a relatively larger fatality to girls, until numerical equality at the same age is reached. Then an excess on the female side begins, and increases progressively, but much more rapidly, to the end of life. Hence, at all ages, life has a longer average to the female than to the male. Records of births and of deaths confirm and correct the direct count of numbers in all these particulars.

4. The relative proportion of boys and girls is approximately the same in all countries. A large total excess of males or of females has no effect on these ratios. The ratios of adult males and females at specified ages are directly affected by the proportion of the sexes in the total population.

5. The state of statistical science does not enable us to determine satisfactorily at what age the sexes are equal in numbers. The period

lies somewhere between fifteen and thirty-five ; but we are obliged to discount an obviously unusual imperfection of the records at about these ages, and varying conditions probably make the time differ in different countries.

6. There are exclusive feminine ailments, chiefly in middle life, which cause death by thousands in every large community. In most countries, also, women are more subject to all that class of diseases which, like consumption, arise oftener from confined, impure air than from great exposure ; and these causes of extra feminine mortality, most active in middle life, have become a steady offset to extra male risks incident to business enterprises, wars, dissipations, and hazards in general, which are incurred in the active period of vigorous manhood. Hence, distinctively during a considerable period of middle life, there is approximate equality of numbers between the sexes in death rates and in life ratios. Taking the whole period from fifteen or eighteen to seventy or seventy-five, the sexes are almost balanced in numbers in every country ; allowing, of course, for excess in the total population of one sex over the other.

7. Mortality tables indicate that girls, like boys, bear hereditary taints, and die, in consequence, at any period of life ; and yet, as indicated above, that at every period of life the female has the slightly better chance of survival. I did not say it is survival of the fittest ; that phrase originated with Mr. Herbert Spencer. Note that the male is not at the greatest disadvantage during his years of greatest exposure. It is in his protected infancy and in sheltered restful age that his less vitality is conspicuously manifested.

8. The general facts above stated have long been known. Every census teems with them. Life insurance and annuity tables have discounted them, and yet their cumulative significance and mutual relation seem to have escaped attention. The facts have been treated as results probably incidental and temporary, arising from complex, highly variable causes. But the approximate uniformity of returns gathered from most widely various peoples, half savage and civilized, during a long term of years, points us to constitutional causes beyond the control of ordinary contingencies. Nature's constant method of maintaining a complicated numerical balance, is nature working in accordance with established order and law.

But, let the explanations be what they may, the accompanying Tables and Statements, condensed and summarized from a large mass of Tabulated Statistics, will place the main facts alleged beyond question.

Tables Showing Numerical Equality of the Sexes in the Aggregate, with Inverse Inequality at the Early and Late Ages.

Table I. United States in 1990.

| All Classes, United States Census. | | | | | | | | | | Colored, Chinese, Japanese, and Civilized Indians. | | | | | | | | | | | | | | | | | | | |
|------------------------------------|-----------|-----------|---------|---------|----------|---------|-----------|-----------|--------|--|--------|---------|---------|---------|----------|--------|---------|---------|-------|----------|---------|---------|-------|--------|--------------|---------|-------|----|--|
| Under 5. | | | | | 5 to 18. | | | | | 75 and over. | | | | | Under 5. | | | | | 5 to 18. | | | | | 75 and over. | | | | |
| Total. | | Female. | | Male. | | Female. | | Male. | | Female. | | Male. | | Female. | | Male. | | Female. | | Male. | | Female. | | Male. | | Female. | | | |
| Alabama, | 622 629 | 639 876 | 109 198 | 105 001 | 213 998 | 907 330 | 322 340 | 4 908 | 5 205 | 51 948 | 51 449 | 107 052 | 104 120 | 2 291 | 2 640 | 36 145 | 35 771 | 2 291 | 2 640 | 36 145 | 35 771 | 2 291 | 2 640 | 36 145 | 35 771 | 2 291 | 2 640 | | |
| Arizona, | 28 992 | 22 228 | 2 036 | 1 906 | 4 255 | 3 629 | 6 670 | 41 | 1 644 | 18 934 | 18 902 | 36 145 | 35 781 | 555 | 673 | 36 145 | 35 781 | 555 | 673 | 36 145 | 35 781 | 555 | 673 | 36 145 | 35 781 | 555 | 673 | | |
| Arkansas, | 416 972 | 826 246 | 72 834 | 69 616 | 135 769 | 130 306 | 205 957 | 184 080 | 1 719 | 1 461 | 1 461 | 1 428 | 3 275 | 257 | 217 | 3 275 | 257 | 217 | 217 | 3 275 | 257 | 217 | 217 | 3 275 | 257 | 217 | 217 | | |
| California, | 518 176 | 346 518 | 47 309 | 46 037 | 109 471 | 106 422 | 358 174 | 192 254 | 2 137 | 1 785 | 1 785 | 1 428 | 2 055 | 5 | 5 | 2 055 | 2 055 | 5 | 5 | 2 055 | 2 055 | 5 | 5 | 2 055 | 2 055 | 5 | 5 | | |
| Colorado, | 129 131 | 315 196 | 47 896 | 9 434 | 118 462 | 117 910 | 101 590 | 37 679 | 5 142 | 7 148 | 7 148 | 1 376 | 1 376 | 72 | 115 | 1 376 | 1 376 | 72 | 115 | 1 376 | 1 376 | 72 | 115 | 1 376 | 1 376 | 72 | 115 | | |
| Connecticut, | 305 782 | 316 918 | 31 780 | 31 091 | 78 179 | 77 333 | 190 627 | 201 246 | 1 247 | 1 197 | 1 197 | 1 436 | 1 436 | 5 | 9 | 1 247 | 1 436 | 5 | 9 | 1 247 | 1 436 | 5 | 9 | 1 247 | 1 436 | 5 | 9 | | |
| Dakota Territory, | 82 296 | 62 881 | 10 029 | 9 692 | 16 964 | 15 945 | 55 088 | 27 047 | 1 005 | 1 890 | 1 890 | 1 119 | 1 119 | 119 | 186 | 1 005 | 1 119 | 119 | 186 | 1 005 | 1 119 | 119 | 186 | 1 005 | 1 119 | 119 | 186 | | |
| Delaware, | 74 108 | 72 500 | 9 190 | 9 145 | 23 044 | 22 899 | 42 387 | 41 481 | 1 075 | 3 815 | 3 815 | 4 010 | 4 010 | 106 | 476 | 1 075 | 4 010 | 106 | 476 | 1 075 | 4 010 | 106 | 476 | 1 075 | 4 010 | 106 | 476 | | |
| District of Columbia, | 88 578 | 94 046 | 10 885 | 10 250 | 23 044 | 24 683 | 49 565 | 58 034 | 584 | 1 009 | 1 009 | 22 071 | 22 071 | 510 | 616 | 1 009 | 22 071 | 510 | 616 | 1 009 | 22 071 | 510 | 616 | 1 009 | 22 071 | 510 | 616 | | |
| Florida, | 136 444 | 133 049 | 22 220 | 21 628 | 44 485 | 43 990 | 68 880 | 67 578 | 883 | 64 233 | 63 559 | 129 611 | 126 571 | 2 650 | 3 827 | 64 233 | 126 571 | 2 650 | 3 827 | 64 233 | 126 571 | 2 650 | 3 827 | 64 233 | 126 571 | 2 650 | 3 827 | | |
| Georgia, | 762 881 | 779 199 | 133 074 | 128 511 | 259 468 | 252 082 | 364 211 | 391 507 | 6 228 | 7 008 | 6 228 | 134 | 134 | 34 | 224 | 6 228 | 134 | 34 | 224 | 6 228 | 134 | 34 | 224 | 6 228 | 134 | 34 | 224 | | |
| Idaho Territory, | 21 818 | 10 792 | 2 173 | 2 011 | 3 855 | 3 659 | 15 753 | 5 114 | 28 | 11 215 | 11 215 | 6 670 | 6 670 | 186 | 224 | 11 215 | 6 670 | 186 | 224 | 11 215 | 6 670 | 186 | 224 | 11 215 | 6 670 | 186 | 224 | | |
| Illinois, | 1 586 523 | 1 491 348 | 211 103 | 205 211 | 474 811 | 468 842 | 889 480 | 806 080 | 11 123 | 3 010 | 3 010 | 6 070 | 6 070 | 186 | 224 | 11 123 | 6 070 | 186 | 224 | 11 123 | 6 070 | 186 | 224 | 11 123 | 6 070 | 186 | 224 | | |
| Indiana, | 1 010 361 | 967 949 | 130 249 | 127 334 | 313 924 | 306 678 | 558 201 | 526 076 | 7 937 | 7 862 | 7 862 | 5 650 | 5 650 | 161 | 258 | 7 862 | 5 650 | 161 | 258 | 7 862 | 5 650 | 161 | 258 | 7 862 | 5 650 | 161 | 258 | | |
| Iowa, | 848 136 | 776 479 | 177 065 | 173 045 | 298 558 | 291 552 | 404 967 | 406 371 | 5 546 | 3 576 | 3 576 | 7 356 | 7 356 | 194 | 197 | 3 576 | 7 356 | 194 | 197 | 3 576 | 7 356 | 194 | 197 | 3 576 | 7 356 | 194 | 197 | | |
| Kansas, | 536 967 | 459 429 | 77 171 | 74 533 | 162 655 | 153 374 | 294 739 | 224 813 | 2 042 | 1 709 | 1 709 | 2 032 | 2 032 | 106 | 106 | 1 709 | 2 032 | 106 | 106 | 1 709 | 2 032 | 106 | 106 | 1 709 | 2 032 | 106 | 106 | | |
| Kentucky, | 832 590 | 816 100 | 126 241 | 122 106 | 276 452 | 270 903 | 423 228 | 416 968 | 6 969 | 7 023 | 20 888 | 20 732 | 45 222 | 429 | 2 672 | 7 023 | 45 222 | 429 | 2 672 | 7 023 | 45 222 | 429 | 2 672 | 7 023 | 45 222 | 429 | 2 672 | | |
| Louisiana, | 468 754 | 741 192 | 76 249 | 74 834 | 150 092 | 150 061 | 238 904 | 238 500 | 3 504 | 8 668 | 8 668 | 106 | 106 | 18 | 27 | 8 668 | 106 | 18 | 27 | 8 668 | 106 | 18 | 27 | 8 668 | 106 | 18 | 27 | | |
| Maine, | 324 058 | 324 878 | 32 660 | 31 727 | 84 345 | 82 511 | 188 365 | 206 736 | 4 112 | 5 913 | 15 221 | 15 438 | 32 224 | 32 | 1 822 | 15 221 | 32 224 | 32 | 1 822 | 15 221 | 32 224 | 32 | 1 822 | 15 221 | 32 224 | 32 | 1 822 | | |
| Maryland, | 462 187 | 472 756 | 46 847 | 45 602 | 140 197 | 139 365 | 256 166 | 266 786 | 12 281 | 17 917 | 1 028 | 1 063 | 1 961 | 1 48 | 1 432 | 1 028 | 1 063 | 1 48 | 1 432 | 1 028 | 1 063 | 1 48 | 1 432 | 1 028 | 1 063 | 1 48 | 1 432 | | |
| Massachusetts, | 858 140 | 924 645 | 90 647 | 88 660 | 214 961 | 214 565 | 542 551 | 603 503 | 4 222 | 4 258 | 1 479 | 1 426 | 2 527 | 9 | 1 339 | 4 258 | 2 527 | 9 | 1 339 | 4 258 | 2 527 | 9 | 1 339 | 4 258 | 2 527 | 9 | 1 339 | | |
| Michigan, | 862 355 | 774 582 | 105 631 | 102 219 | 225 391 | 228 991 | 492 903 | 436 114 | 3 833 | 3 904 | 2 267 | 2 267 | 3 904 | 1 48 | 1 432 | 3 904 | 2 267 | 1 48 | 1 432 | 3 904 | 2 267 | 1 48 | 1 432 | 3 904 | 2 267 | 1 48 | 1 432 | | |
| Minnesota, | 419 149 | 391 624 | 59 475 | 57 734 | 119 703 | 117 872 | 237 381 | 183 565 | 2 690 | 2 453 | 58 641 | 58 000 | 117 122 | 2 352 | 2 352 | 58 641 | 117 122 | 2 352 | 2 352 | 58 641 | 117 122 | 2 352 | 2 352 | 58 641 | 117 122 | 2 352 | 2 352 | | |
| Mississippi, | 567 177 | 564 430 | 99 318 | 96 558 | 195 885 | 190 251 | 268 083 | 273 483 | 3 891 | 4 128 | 10 470 | 10 279 | 23 976 | 2 352 | 2 352 | 10 470 | 23 976 | 2 352 | 2 352 | 10 470 | 23 976 | 2 352 | 2 352 | 10 470 | 23 976 | 2 352 | 2 352 | | |
| Missouri, | 1 127 187 | 1 041 193 | 157 762 | 153 161 | 355 438 | 346 072 | 608 087 | 608 087 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | | |
| Montana, | 28 177 | 10 982 | 1 978 | 1 932 | 3 445 | 3 251 | 22 628 | 5 777 | 26 | 22 | 22 | 22 | 22 | 4 | 4 | 22 | 22 | 4 | 4 | 22 | 22 | 4 | 4 | 22 | 22 | 4 | 4 | | |
| Nebraska, | 249 241 | 203 161 | 36 585 | 35 571 | 69 513 | 65 645 | 322 213 | 101 160 | 930 | 785 | 171 | 182 | 338 | 20 | 14 | 785 | 338 | 20 | 14 | 785 | 338 | 20 | 14 | 785 | 338 | 20 | 14 | | |
| Nevada, | 42 019 | 20 247 | 3 207 | 3 000 | 5 691 | 5 653 | 34 054 | 11 459 | 67 | 41 | 44 | 44 | 98 | 5 | 5 | 41 | 98 | 5 | 5 | 41 | 98 | 5 | 5 | 41 | 98 | 5 | 5 | | |
| New Hampshire, | 170 526 | 176 465 | 15 004 | 15 069 | 39 572 | 39 548 | 10 916 | 16 117 | 4 484 | 5 731 | 2 320 | 2 340 | 5 156 | 244 | 315 | 2 320 | 5 156 | 244 | 315 | 2 320 | 5 156 | 244 | 315 | 2 320 | 5 156 | 244 | 315 | | |
| New Jersey, | 559 922 | 571 194 | 67 950 | 66 766 | 158 173 | 158 248 | 329 315 | 338 762 | 3 182 | 4 484 | 3 182 | 3 182 | 4 484 | 84 | 63 | 3 182 | 4 484 | 84 | 63 | 3 182 | 4 484 | 84 | 63 | 3 182 | 4 484 | 84 | 63 | | |
| New Mexico, | 64 496 | 55 069 | 8 296 | 7 883 | 18 290 | 17 415 | 37 498 | 29 423 | 315 | 348 | 701 | 701 | 605 | 402 | 527 | 701 | 605 | 402 | 527 | 701 | 605 | 402 | 527 | 701 | 605 | 402 | 527 | | |
| New York, | 2 507 322 | 2 577 549 | 282 615 | 276 405 | 667 961 | 669 957 | 1 521 578 | 1 503 041 | 3 168 | 3 401 | 3 401 | 3 401 | 3 401 | 1 395 | 1 395 | 3 401 | 3 401 | 1 395 | 1 395 | 3 401 | 3 401 | 1 395 | 1 395 | 3 401 | 3 401 | 1 395 | 1 395 | | |
| North Carolina, | 687 908 | 711 842 | 117 813 | 115 304 | 230 252 | 221 932 | 333 200 | 366 445 | 6 003 | 8 111 | 47 256 | 47 256 | 92 858 | 2 128 | 2 724 | 47 256 | 92 858 | 2 128 | 2 724 | 47 256 | 92 858 | 2 128 | 2 724 | 47 256 | 92 858 | 2 128 | 2 724 | | |
| Ohio, | 1 013 936 | 1 584 126 | 205 981 | 199 446 | 479 710 | 471 568 | 909 529 | 894 420 | 18 692 | 18 692 | 5 178 | 5 178 | 11 990 | 398 | 459 | 5 178 | 11 990 | 398 | 459 | 5 178 | 11 990 | 398 | 459 | 5 178 | 11 990 | 398 | 459 | | |
| Oregon, | 138 381 | 131 387 | 11 551 | 11 335 | 25 566 | 24 462 | 55 769 | 35 259 | 465 | 351 | 171 | 125 | 125 | 9 | 15 | 351 | 125 | 9 | 15 | 351 | 125 | 9 | 15 | 351 | 125 | 9 | 15 | | |
| Pennsylvania, | 2 136 655 | 2 146 236 | 279 831 | 272 343 | 633 588 | 626 738 | 883 582 | 883 582 | 2 244 | 2 244 | 2 244 | 2 244 | 2 244 | 444 | 555 | 2 244 | 2 244 | 444 | 555 | 2 244 | 2 244 | 444 | 555 | 2 244 | 2 244 | 444 | 555 | | |
| Rhode Island, | 133 030 | 144 501 | 14 349 | 14 236 | 33 840 | 34 304 | 83 177 | 92 207 | 1 664 | 2 207 | 1 664 | 1 664 | 1 664 | 33 | 74 | 1 664 | 1 664 | 33 | 74 | 1 664 | 1 664 | 33 | 74 | 1 664 | 1 664 | 33 | 74 | | |
| South Carolina, | 490 408 | 505 169 | 87 982 | 85 609 | 166 933 | 163 690 | 231 052 | 250 759 | 4 441 | 5 141 | 55 632 | 54 985 | 106 173 | 615 | 818 | 55 632 | 54 985 | 615 | 818 | 55 632 | 54 985 | 615 | 818 | 55 632 | 54 985 | 615 | 818 | | |
| Tennessee, | 769 277 | 773 082 | 122 831 | 121 062 | 261 404 | 254 297 | 232 179 | 389 958 | 5 863 | 6 036 | 34 202 | 34 366 | 70 602 | 1 395 | 1 855 | 34 202 | 70 602 | 1 395 | 1 855 | 34 202 | 70 602 | 1 395 | 1 855 | 34 202 | 70 602 | 1 395 | 1 855 | | |
| Texas, | 837 840 | 753 909 | 142 915 | 137 108 | 335 988 | 324 937 | 427 343 | 358 472 | 5 594 | 3 382 | 36 071 | 35 719 | 136 | 1 198 | 1 828 | 36 071 | 35 719 | 136 | 1 198 | 36 071 | 35 719 | 136 | 1 198 | 36 071 | 35 719 | 136 | 1 198 | | |
| Utah, | 74 509 | 69 454 | 13 922 | 12 569 | 24 698 | 23 595 | 36 494 | 32 688 | 525 | 602 | 67 | 49 | 157 | 145 | 3 | 67 | 157 | 145 | 3 | 67 | 157 | 145 | 3 | 67 | 157 | 145 | 3 | 67 | |
| Vermont, | 166 887 | 165 399 | 17 339 | 16 652 | 43 974 | 42 296 | 101 951 | 101 814 | 4 523 | 4 687 | 61 | 58 | 169 | 13 | 5 | 61 | 169 | 13 | 5 | 61 | 169 | 13 | 5 | 61 | 169 | 13 | 5 | 61 | |
| Washington Territory, | 745 589 | 766 976 | 118 390 | 116 297 | 247 843 | 242 734 | 371 251 | 398 680 | 8 162 | 9 268 | 52 257 | 52 800 | 109 109 | 330 | 363 | 52 257 | 109 109 | 330 | 363 | 52 257 | 109 109 | 330 | 363 | 52 257 | 109 109 | 330 | 363 | | |
| West Virginia, | 45 973 | 29 143 | 5 310 | 5 000 | 10 548 | 9 873 | 15 998 | 14 179 | 1 157 | 1 391 | 31 892 | 30 969 | 4 068 | 131 | 18 | 31 892 | 30 969 | 4 068 | 131 | 31 892 | 30 969 | 4 068</ | | | | | | | |

Table II. Foreign Countries Previous to 1850.

Condensed from Professor Wappaus' Table, as given in United States Census, 1850.

| | Total. | | Under 5. | | 5 to 10. | | 10 to 15. | | 15 to 20. | | 20 to 25. | | 25 to 30. | | 30 to 35. | | 35 to 40. | | 40 and over. | |
|------------------------|------------|------------|----------------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|---------|-----------|---------|-----------|---------|--------------|---------|
| | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. |
| France..... | 17 777 012 | 17 976 515 | 1 082 986 | 1 638 833 | 1 676 290 | 1 618 931 | 1 692 340 | 1 544 087 | 12 206 426 | 12 402 374 | 504 591 | 572 886 | 97 382 | 129 463 | 6 687 | 9 941 | 6 687 | 9 941 | 6 687 | 9 941 |
| England..... | 8 781 225 | 9 146 384 | 1 176 753 | 1 171 354 | 1 050 228 | 1 042 131 | 993 995 | 949 362 | 6 737 010 | 5 704 997 | 179 746 | 216 518 | 42 113 | 57 132 | 2 816 | 4 880 | 2 816 | 4 880 | 2 816 | 4 880 |
| Scotland..... | 1 375 479 | 1 513 263 | 189 055 | 182 432 | 172 106 | 167 747 | 162 554 | 154 896 | 1 555 715 | 1 397 375 | 27 440 | 37 707 | 7 569 | 11 815 | 679 | 1 271 | 679 | 1 271 | 679 | 1 271 |
| Ireland..... | 4 016 536 | 4 152 071 | 523 727 | 505 798 | 544 854 | 531 351 | 518 876 | 499 473 | 2 094 716 | 2 447 717 | 63 823 | 64 699 | 21 021 | 25 944 | 3 075 | 4 179 | 3 075 | 4 179 | 3 075 | 4 179 |
| Netherlands..... | 1 498 678 | 1 557 971 | 173 499 | 171 028 | 174 892 | 171 284 | 166 252 | 163 103 | 1 554 104 | 1 402 158 | 29 669 | 37 813 | 6 682 | 8 971 | 402 | 614 | 402 | 614 | 402 | 614 |
| Belgium..... | 2 163 624 | 2 173 672 | 254 286 | 250 755 | 239 627 | 233 544 | 216 687 | 207 324 | 1 279 088 | 1 402 000 | 54 732 | 61 810 | 13 998 | 16 881 | 1 048 | 1 412 | 1 048 | 1 412 | 1 048 | 1 412 |
| Sweden..... | 1 087 248 | 1 175 293 | 220 089 | 217 618 | 185 832 | 185 515 | 167 548 | 168 153 | 1 043 941 | 1 166 355 | 30 591 | 47 146 | 5 352 | 9 978 | 211 | 532 | 211 | 532 | 211 | 532 |
| Norway..... | 729 905 | 790 142 | 102 698 | 98 837 | 85 934 | 83 910 | 75 980 | 72 981 | 544 213 | 475 851 | 15 569 | 21 123 | 4 401 | 6 541 | 458 | 908 | 458 | 908 | 458 | 908 |
| Denmark..... | 692 440 | 715 407 | 86 743 | 86 389 | 77 613 | 75 737 | 70 634 | 68 813 | 350 298 | 459 625 | 15 739 | 19 442 | 3 317 | 4 941 | 191 | 380 | 191 | 380 | 191 | 380 |
| Schleswig..... | 179 726 | 183 174 | 23 779 | 22 664 | 20 517 | 19 511 | 18 097 | 17 930 | 177 359 | 116 942 | 3 907 | 4 932 | 888 | 1 090 | 58 | 71 | 58 | 71 | 58 | 71 |
| Holstein..... | 241 644 | 237 720 | 32 994 | 32 944 | 29 101 | 27 855 | 25 051 | 24 050 | 148 897 | 146 938 | 4 719 | 4 880 | 826 | 881 | 56 | 85 | 56 | 85 | 56 | 85 |
| Spain..... | 7 070 671 | 7 738 407 | 0 and under 15 | 233 407 | 237 753 | 233 407 | 2 719 851 | 2 708 265 | 4 840 503 | 4 965 429 | 91 646 | 96 984 | 17 418 | 20 431 | 1 253 | 2 268 | 1 253 | 2 268 | 1 253 | 2 268 |
| Sardinia..... | 2 072 707 | 2 033 028 | 247 853 | 242 990 | 181 024 | 168 819 | *429 272 | 428 992 | 1 106 303 | 1 107 254 | 43 255 | 34 741 | 8 589 | 6 245 | 582 | 429 | 582 | 429 | 582 | 429 |
| Papal States..... | 181 024 | 168 819 | 68 926 | 68 819 | 69 800 | 68 926 | *207 957 | 285 296 | 882 418 | 886 174 | 37 125 | 35 173 | 6 679 | 6 031 | 354 | 396 | 354 | 396 | 354 | 396 |
| Upper Canada..... | 451 020 | 451 020 | 86 124 | 82 998 | 63 509 | 62 006 | 62 268 | 57 005 | 274 069 | 288 708 | 4 117 | 3 039 | 989 | 757 | 144 | 131 | 144 | 131 | 144 | 131 |
| Lower Canada..... | 444 863 | 437 749 | 84 385 | 82 351 | 63 509 | 62 006 | 53 357 | 51 282 | 235 704 | 234 889 | 6 127 | 4 957 | 1 593 | 1 437 | 218 | 227 | 218 | 227 | 218 | 227 |
| Aggregates..... | 51 429 079 | 52 471 165 | 5 069 246 | 4 938 937 | 4 809 140 | 4 691 206 | 7 632 719 | 7 401 012 | 32 548 623 | 33 818 782 | 1 112 298 | 1 263 789 | 238 811 | 308 534 | 18 242 | 27 804 | 18 242 | 27 804 | 18 242 | 27 804 |
| Males in excess..... | 110 309 | 117 874 | 110 309 | 117 874 | 110 309 | 117 874 | 231 707 | 231 707 | 7 401 012 | 7 401 012 | 1 112 298 | 1 263 789 | 238 811 | 308 534 | 18 242 | 27 804 | 18 242 | 27 804 | 18 242 | 27 804 |
| Females in excess..... | 1 042 086 | 1 042 086 | 100 000 | 97 823 | 100 000 | 97 548 | 100 000 | 96 964 | 100 000 | 103 902 | 100 000 | 113 619 | 100 000 | 129 216 | 100 000 | 152 416 | 100 000 | 152 416 | 100 000 | 152 416 |

* From 10 to 20.

Table III. Selected Periods, Classes, and Countries.

| Total. | Under 5. | | 5 to 10. | | 10 to 15. | | 15 to 20. | | 20 to 25. | | 25 to 30. | | 30 to 35. | | 35 to 40. | | 40 and over. | |
|----------------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|-----------|
| | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. |
| U. S., 1850. All classes. | 11 827 660 | 11 354 216 | 1 769 460 | 1 728 313 | 1 640 407 | 1 600 861 | 1 473 116 | 1 417 513 | 6 784 230 | 6 429 110 | 127 450 | 129 774 | 36 727 | 40 655 | 6 290 | 7 990 | | |
| Sex and number in excess. | 183 414 | 41 147 | 39 546 | 55 693 | 39 546 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 | 55 693 |
| U. S., 1860. Free Colored. | 100 000 | 95 916 | 100 000 | 97 674 | 100 000 | 97 589 | 100 000 | 96 225 | 100 000 | 94 818 | 100 000 | 101 815 | 100 000 | 110 695 | 100 000 | 127 635 | | |
| Sex and number in excess. | 234 119 | 253 951 | 32 843 | 33 075 | 30 700 | 31 137 | 29 445 | 29 963 | 135 472 | 135 472 | 3 198 | 3 888 | 1 005 | 1 570 | 455 | 768 | | |
| U. S., 1870. Colored. | 100 000 | 99 882 | 100 000 | 99 823 | 100 000 | 100 488 | 98 380 | 100 488 | 100 000 | 113 377 | 100 000 | 120 012 | 100 000 | 156 218 | 100 000 | 169 791 | | |
| Sex and number in excess. | 1 082 625 | 1 970 155 | 322 156 | 331 010 | 287 239 | 288 630 | 275 928 | 264 320 | 1 074 194 | 1 063 477 | 15 433 | 15 724 | 4 627 | 5 394 | 1 988 | 2 614 | | |
| U. S., 1880. Slaves. | 11 491 | 10 970 | 100 000 | 98 854 | 100 000 | 98 854 | 100 000 | 98 854 | 100 000 | 98 854 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 |
| Sex and number in excess. | 23 909 | 20 085 | 2 982 | 2 762 | 2 734 | 2 394 | 2 656 | 2 272 | 15 091 | 12 284 | 69 | 82 | 45 | 58 | 82 | 133 | | |
| U. S., 1890. Indians. | 8 824 | 8 824 | 100 000 | 98 247 | 100 000 | 96 465 | 100 000 | 95 542 | 100 000 | 94 399 | 100 000 | 101 885 | 100 000 | 115 297 | 100 000 | 131 488 | | |
| Sex and number in excess. | 14 086 509 | 14 089 156 | 2 356 233 | 2 279 587 | 2 015 834 | 1 961 818 | 1 968 639 | 1 932 284 | 7 487 225 | 7 504 065 | 181 552 | 186 134 | 42 075 | 48 531 | 40 000 | 57 566 | | |
| U. S., 1870. Native White. | 77 323 | 76 706 | 100 000 | 98 846 | 100 000 | 97 328 | 100 000 | 96 674 | 100 000 | 100 000 | 100 000 | 102 523 | 100 000 | 116 489 | 100 000 | 140 733 | | |
| Sex and number in excess. | 2 393 263 | 2 486 746 | 396 812 | 394 609 | 331 795 | 328 036 | 329 339 | 315 972 | 1 299 265 | 1 406 787 | 25 714 | 27 292 | 7 553 | 9 398 | 2 785 | 4 652 | | |
| U. S., 1870. Colored. | 93 483 | 93 483 | 100 000 | 99 444 | 100 000 | 98 867 | 100 000 | 95 941 | 100 000 | 108 275 | 100 000 | 106 136 | 100 000 | 124 427 | 100 000 | 167 038 | | |
| Sex and number in excess. | 58 680 | 4 574 | 100 000 | 99 444 | 100 000 | 98 867 | 100 000 | 95 941 | 100 000 | 108 275 | 100 000 | 106 136 | 100 000 | 124 427 | 100 000 | 167 038 | | |
| U. S., 1870. Chinese. | 54 106 | 7 704 | 100 000 | 78 350 | 100 000 | 4 945 | 100 000 | 11 517 | 53 074 | 7 001 | 24 | 5 405 | 100 000 | 5 | 5 | | | |
| Sex and number in excess. | 12 534 | 13 197 | 1 616 | 1 518 | 1 477 | 1 415 | 1 257 | 1 470 | 7 494 | 8 545 | 129 | 166 | 49 | 49 | 20 | 34 | | |
| U. S., 1870. Indians. | 1 163 | 1 163 | 100 000 | 98 247 | 100 000 | 96 465 | 100 000 | 95 542 | 100 000 | 94 399 | 100 000 | 101 885 | 100 000 | 115 297 | 100 000 | 131 488 | | |
| Sex and number in excess. | 725 575 | 105 289 | 126 036 | 121 600 | 90 358 | 88 125 | 86 297 | 83 517 | 313 019 | 311 692 | 7 986 | 6 462 | 2 017 | 1 690 | 305 | 268 | | |
| Upper Canada, 1861. | 55 059 | 62 411 | | | | | | | | | | | | | | | | |
| Sex and number in excess. | 55 059 | 62 411 | | | | | | | | | | | | | | | | |
| Lower Canada, 1861. | 567 885 | 543 701 | | | | | | | | | | | | | | | | |
| Sex and number in excess. | 24 184 | 20 581 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 10 897 297 | 10 850 068 | 1 494 564 | 1 465 127 | 1 188 775 | 1 156 926 | 1 083 993 | 1 036 452 | 6 888 780 | 6 966 290 | 197 985 | 185 374 | 40 458 | 36 877 | 2 681 | 3 140 | | |
| Sex and number in excess. | 17 138 | 17 138 | 29 437 | 27 541 | 27 541 | 27 541 | 27 541 | 27 541 | 27 541 | 27 541 | 2 611 | 2 611 | 3 518 | 3 518 | 3 518 | 3 518 | | |
| U. S., 1881. | 100 000 | 99 842 | 100 000 | 98 030 | 100 000 | 97 320 | 100 000 | 97 459 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 |
| Sex and number in excess. | 13 472 292 | 13 328 892 | 1 878 059 | 1 822 044 | 1 469 582 | 1 427 392 | 1 328 748 | 1 298 433 | 8 477 006 | 8 500 520 | 263 043 | 257 436 | 52 220 | 48 945 | 3 594 | 4 182 | | |
| U. S., 1881. | 143 370 | 143 370 | | | | | | | | | | | | | | | | |
| Sex and number in excess. | 18 645 271 | 18 741 037 | 1 824 408 | 1 787 763 | 1 648 168 | 1 624 591 | 1 638 644 | 1 596 776 | 12 900 682 | 12 964 277 | 519 326 | 500 265 | 107 896 | 93 710 | 100 000 | 116 360 | | |
| Sex and number in excess. | 100 000 | 100 000 | 36 655 | 36 655 | 23 577 | 23 577 | 41 868 | 41 868 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 | 100 000 |
| U. S., 1881. | 17 982 511 | 18 120 410 | 1 696 951 | 1 635 076 | 1 668 568 | 1 609 343 | 1 597 789 | 1 543 018 | 12 282 109 | 12 477 177 | 624 222 | 681 414 | 106 851 | 145 250 | 6 011 | 9 142 | | |
| Sex and number in excess. | 100 000 | 100 000 | 41 885 | 41 885 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 | 59 225 |
| U. S., 1881. | 11 058 934 | 11 058 934 | 1 536 464 | 1 536 464 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 | 1 350 819 |
| Sex and number in excess. | 100 000 | 100 000 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 | 1 692 |
| U. S., 1881. | 100 000 | 105 374 | 100 000 | 99 892 | 100 000 | 100 361 | 100 000 | 98 582 | 100 000 | 108 176 | 100 000 | 118 106 | 100 000 | 137 611 | 100 000 | 188 770 | | |
| Sex and number in excess. | 12 639 992 | 13 384 537 | 1 757 657 | 1 703 207 | 1 568 579 | 1 578 817 | 1 402 250 | 1 398 401 | 7 607 523 | 8 172 250 | 248 180 | 304 097 | 53 100 | 72 637 | 2 753 | 3 428 | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |
| U. S., 1881. | 97 892 135 | 92 381 582 | 100 000 | 100 310 | 100 000 | 100 652 | 100 000 | 99 705 | 100 000 | 107 423 | 100 000 | 121 530 | 100 000 | 136 792 | 100 000 | 198 609 | | |
| Sex and number in excess. | 5 510 676 | 44 290 | | | | | | | | | | | | | | | | |

THE COMPARATIVE LONGEVITY OF THE SEXES.

TABLE IV.

The Numerical Balance of Large Aggregates.

| <i>Europe.</i> | | <i>Male.</i> | <i>Female.</i> |
|-----------------------|------|--------------|----------------|
| United Kingdom, | 1881 | 17 254 109 | 17 988 372 |
| France, | 1881 | 18 656 518 | 18 748 772 |
| Germany, | 1880 | 22 185 433 | 23 048 628 |
| Switzerland, | 1880 | 1 394 626 | 1 451 476 |
| Belgium, | 1881 | 2 790 608 | 2 795 238 |
| Austria-Hungary, | 1880 | 18 522 547 | 19 263 699 |
| Norway, | 1875 | 876 762 | 930 138 |
| Sweden, | 1882 | 2 218 343 | 2 360 772 |
| Denmark, | 1880 | 967 360 | 1 001 679 |
| Holland, | 1883 | 2 064 392 | 2 108 579 |
| Servia, | 1874 | 694 756 | 657 766 |
| Roumania, | 1877 | 2 618 136 | 2 454 864 |
| Russia, | 1882 | 49 971 817 | 50 400 736 |
| Spain, | 1877 | 8 253 293 | 8 500 292 |
| Portugal, | 1878 | 2 175 829 | 2 374 870 |
| Italy, | 1881 | 14 265 523 | 14 193 928 |
| Greece, | 1879 | 881 080 | 798 695 |
| Malta, | 1881 | 76 959 | 77 239 |
| Gibraltar, | 1881 | 8 527 | 9 487 |
| Total Europe, | | 165 876 618 | 169 164 230 |
| <i>North America.</i> | | <i>Male.</i> | <i>Female.</i> |
| United States, | 1880 | 25 518 820 | 24 636 963 |
| Canada, | 1881 | 2 188 854 | 2 135 956 |
| Newfoundland, | 1874 | 83 283 | 78 091 |
| Nicaragua, | 1883 | 136 947 | 138 867 |
| Honduras, | 1880 | 14 108 | 13 344 |
| British West Indies, | 1861 | 452 372 | 481 634 |
| Bermuda, | 1871 | 5 302 | 6 579 |
| Total North America, | | 28 399 686 | 27 491 434 |
| <i>South America.</i> | | <i>Male.</i> | <i>Female.</i> |
| Columbia, | | 1 434 129 | 1 517 194 |
| Venezuela, | | 1 005 518 | 1 069 727 |
| British Guiana, | 1871 | 108 792 | 84 699 |
| Brazil, | 1872 | 5 176 985 | 5 362 344 |
| Paraguay, | | 28 076 | 106 254 |
| Uruguay, | | 226 580 | 211 665 |
| Peru, | 1876 | 1 365 895 | 1 344 050 |
| Chili, | | 1 098 628 | 1 101 552 |
| Falkland Islands, | 1880 | 967 | 577 |
| Total South America, | | 10 444 570 | 10 798 062 |

| <i>Africa.</i> | | <i>Male.</i> | <i>Female.</i> |
|-------------------------|------|--------------|----------------|
| Algeria, | 1881 | 1 772 406 | 1 538 006 |
| Egypt proper, | 1882 | 3 406 000 | 3 414 000 |
| Orange Free States, | 1880 | 70 160 | 62 368 |
| Cape of Good Hope, | 1875 | 369 628 | 351 356 |
| Gold Coast, | 1880 | 7 215 | 6 935 |
| Mauritius, | 1881 | 208 340 | 152 020 |
| Lagos, | 1880 | 31 201 | 29 345 |
| St. Helena, | 1880 | 2 573 | 2 486 |
| Total Africa, | | 5 867 523 | 5 556 516 |
| <i>Australasia.</i> | | <i>Male.</i> | <i>Female.</i> |
| New Zealand, | 1883 | 307 673 | 254 133 |
| Tasmania, | 1881 | 61 162 | 54 543 |
| Victoria, | 1881 | 452 083 | 410 263 |
| Queensland, | 1881 | 136 044 | 98 066 |
| New South Wales, | 1881 | 547 193 | 438 385 |
| South Australia, | 1881 | 155 335 | 178 174 |
| Western Australia, | 1881 | 17 062 | 12 646 |
| Oceania, | 1878 | 34 103 | 23 883 |
| Total Australasia, | | 1 710 655 | 1 470 093 |
| <i>Asia.</i> | | <i>Male.</i> | <i>Female.</i> |
| China, | | 5 312 523 | 5 206 414 |
| Japan, | | 18 598 998 | 18 101 120 |
| Ceylon, | 1881 | 1 470 993 | 1 290 403 |
| Hong Kong, | 1880 | 115 369 | 45 033 |
| Straits Settlements, | 1880 | 281 687 | 141 697 |
| Labaun, | 1880 | 3 927 | 2 371 |
| Total Asia, | | 25 783 497 | 24 787 038 |
| Grand Total, | | 238 082 549 | 239 267 373 |
| | | <i>Male.</i> | <i>Female.</i> |
| British India, | | 101 292 049 | 97 498 349 |
| Native States of India, | | 28 684 722 | 26 465 734 |
| Aggregate, 731,290,776. | | | |

Upper Canada in 1784 recorded 24,552 males under fifteen, and 22,513 females under fourteen, the sexes being classed as under and over these ages respectively. Thus, in their degree, earlier records confirm the more modern ones.

The tables show that the various colored races of this country conform to the rules rather less strikingly than the whites, and that each country usually has certain uniformities in the different census years special to itself. How far such variations are due to inaccurate returns and how far to other causes, is not easy to determine.

The relative numbers of the sexes at birth vary considerably within certain limits; yet civilized and savage, prolific and unprolific nations maintain similar birth-rates, as a few more figures will indicate:—

Relative Numbers of Sexes at Birth.

| | <i>Male.</i> | <i>Female.</i> |
|---------------------|--------------|----------------|
| France (1881), | 469 181 | 450 996 |
| Ireland (1882), | 64 819 | 61 021 |
| Madras (1880), | 339 301 | 320 690 |
| Switzerland (1882), | 44 319 | 41 668 |
| Italy (1881), | 557 029 | 524 096 |
| Punjab (1880), | 298 229 | 246 430 |
| Belgium (1879), | 80 339 | 85 302 |
| Austria (1881), | 428 922 | 404 554 |
| Germany (1880), | 898 996 | 849 690 |
| Oudh (1880), | 5 860 960 | 5 546 665 |

More males than females are still-born, and many more die at every age under five years. Whether there is any people or condition in which, with large enough numbers and a well-sifted count, there are more girls than boys at birth, is doubtful. The years of special fatality to girls vary greatly in different counties and conditions; and comparative death-rates, like other death-rates, vary with the civilization. India not only burned widows and destroyed female infants, but, like the most of Asia, it is still a vast prison to one sex, which in consequence dwindles to a minority. Fiercer tribes, as in Paraguay, slaughter their men in war; but most of these have no census returns. In all civilized countries, emigration is the great disturbing element in the numerical balance of the sexes. Table IV. embraces multitudes of men on foreign soil. Others are in Turkey, Persia, and at all the ends of the earth not tabulated. The Argentine Confederation in 1875 reported 9,130 Italians, 4,030 Spaniards, 3,238 Frenchmen, 10,709 British, 5,860 Swiss, and 4,997 Germans. The unrecorded wanderers may be properly offset by the surplus men of Asia; though India, having nearly a seventh of the entire population of the globe, with 6,000,000 more men than women, is clearly to be counted out from our estimate.

It is not held that nature maintains a numerical balance of the sexes under all conditions, but that the larger number of males at birth, and the greater longevity of females, so far persistently balance each other that equality of numbers in the aggregate is maintained, other things equal, in all of our best civilizations. The table includes the leading countries of the world and the colonies of Great Britain. The dependencies of other nations would not greatly affect the result. Like conditions give similar returns, and the close balance is remarkable.

There are two possible explanations of the facts given in the above summary and in the tables. One is, that the hereditary results

of male hardships, hazards, or excesses, transmitted to the same sex only, have been so great that the average of life to that sex has become grievously shortened thereby. The other is, that the feminine constitution, much beyond the male constitution, being differentiated in the two classes of organic functions distinguished as individual and reproductive, together with the earlier limitation of the latter, gains thereby a greater reversion of energy toward the close of life, as well as a larger available reserve, which in case of need may be called into vicarious action at all ages. Increased longevity thus resulting, primarily affecting females only, if inherited by both sexes, would tend to the extension of the average life of the race. This result would be parallel to the increase of size and strength to the entire species, superiority in this direction having arisen primarily in the male line of descent.

For one, I cannot find evidence that man has limited his great heritage, has thrown away his birthright of years for worse than a mess of pottage. What, then, are some of the constitutional causes of the superior longevity of women, and what are nature's methods in securing this result?

All organic existence is fundamentally differentiated in the two classes of functions, the individual and the reproductive, with their direct and indirect modes of nutrition and growth. Between these basal divisions organic antagonism arises, because of the common necessity that both systems shall be sustained from the same source of supplies, and because the resulting activities must take opposed directions. But, in the process of evolution, both systems are compelled to mutual adaptations and to many various modes of co-operation for their joint advantage. They are like rival nationalities forced into alliance both offensive and defensive; in league with, but also in ceaseless struggle against, the common environment, which becomes helpful or harmful precisely as they together succeed in adjusting themselves to its helpfulness or in overcoming its harmfulness.

The inevitable, the unpreventable antagonism between these two mutually dependent systems has been recognized, and, as it seems to me, has been pushed into undue prominence by men of science and philosophy, simply because the continuous adaptations and co-operations which also exist have not received from them an equal amount of attention. I think it is quite possible to show you that the active mutual adjustments for mutual benefit have become of such positive advantage to both as to have quite succeeded in annulling, possibly

in something more than merely annulling, all of the disadvantages of the direct antagonism. The advantage gained is like to that of a ship sailing almost in the eye of the wind. If unmanaged, the wind would blow dead against the ship's progress; but by steady proper management and constant shifting of the sails, it is made to propel the ship forward, though with some obliqueness of direction, and thus to become a positive advantage. In a closely parallel way, the innate principle of perpetual plastic adaptation, which pertains to all organisms, has succeeded through this very antagonism in forwarding both individual and race interests. With attention too exclusively directed to the benefits which accrue to the race, individual gain may be easily misinterpreted. It is within the domain of these complex adjustments and to the distinctive methods of their co-operation that I invite you to look, in order to find the reason for the superior longevity of women.

Two general laws govern all organic adaptations:—1. In all orders of organic beings, evolution is always twofold,—individual and reproductive,—with continuous and mutual adjustment between the two, with growing differentiation in each, and with corresponding advance in both. 2. Just in the degree to which characters of whatever kind, acquired by habit or otherwise, have become of a high order, have become of great physical or psychical value or of many classes of values, just in that degree these characters, if transmitted to descendants and thus made permanent to the race, have required and have found responsive and corresponding differentiation and advancement in the organism through which and by which such transmission has been effected.

It is notable that this double-phased, doubly responsive progress in the primary and in the dependent systems has been everywhere steadily and obviously maintained along all of the various lines of development. A low structural condition of the general organism is allied to a low structural condition of the special organism; and a high, widely differentiated, and many featured general organism is always accompanied by a carefully and broadly differentiated reproductive system.

Now, whenever a crystal takes a definite, specific form, we understand that a part of the forces which contribute to this result reside within the material which is crystalized, but, at the same time, that the size and perfection of the crystallization is largely dependent also upon outside forces. In heredity, characters are transmitted both

from, and jointly from, the paternal and the maternal ancestry. But the mother is also largely the environment. If that is of a low order, or inharmonious, the results are unsatisfactory and tend toward dissolution. But if the environment is favorable, if it is highly adapted to foster and carry forward all the many various and often diverse forces which are marvellously grouped, co-operative, and held in growing equipoise, then the result is evolution.

Electricity, in addition to being generated by two unlike metals, must be properly stored, properly conducted, and properly applied through a long, complex series of most delicate yet effective contrivances, in order to achieve good and desired work; how much more the requirements of the living human germ in its progress toward its mature royal heritage! The male of all the higher species has acquired advanced size and many new bony and muscular and mental and moral differentiations. But the female of all species, conversely, has acquired in advance or in exclusive right, a mechanism and functions most delicate yet instinct with subtle, living forces held in readiness for efficient co-operation, for impersonal, organic benevolence in transmitting gifts to the unborn generations; and, also, she is the embodiment of an associated but unique power, more closely wrought with her own emotional, intellectual, and moral nature, which is uniquely modified accordingly, and in due time is transmitted to the same sex, and, to a large extent, to both sexes. All this means so much in relating her on the one hand to all the past of her race through her adaptations to the masculine development and, on the other, to all the future of her race by her privilege to be the final dispenser of every gift of good or evil, that, in remembrance of this mighty mediatorship between past and future good, between the endless becoming from one present, to an instantly higher present, the lifeless and unconscious uplifted into the living and conscious, I may surely venture to affirm that, whoever has not given the female due credit in the evolution of her race, he it is who has never given this side of the subject due attention.

But by what methods has Nature succeeded in giving this type of pre-eminence in a lesser degree to the females of the lowest ranks of her living kingdom and in a steadily ascending degree upward, to the mothers of the human race? The answer is both easy and explicit: Simply through the habitual process of nourishing first and best that part of every organism which has been called most into active exercise.

Through the joint aid of the blood circulation and the nerves, especially of the sympathetic nervous system, Nature always gives her special attention to wherever there are special needs. Now, the growth and exercise of muscle and of its various dependencies are pre-eminently attended to in the male economy. In treating of this part of the subject somewhat fully elsewhere, I venture to call the masculine type the "peripheral" type of adapted organic growth and activities. But the general nutrition of the female is conspicuously adapted to, perhaps is subordinated to, her special functions. Hers may be properly designated the "central" type of organic growth and activities. Hence, advantage and differentiation with him are largely peripheral. Male evolution, as Mr. Darwin has illustrated, has been everywhere marked by the development of many external appendages. But advantage and differentiation with the female are much more centralized. Her thoughts and feelings and volitions are more closely interwoven than his, and her whole nature is curiously modified by her feminine organization.

Pre-eminent feminine longevity seems to have prevailed ever since the first differentiation of sexual life. In the flower, the centralized sex element must live to nourish its fruit in place, giving to its direct appendages a better chance of survival. Apparently from a like necessity and from continuance of acquired habit, many female insects are much longer-lived than the males. There is some authority for the assertion that superior longevity pertains to the females of some higher animals, of some domestic animals; and there is small reason for supposing that, if the subject had ever been fully investigated and tested, the law would fail among any living species. Each ascending race probably has progressively increased in length of life, and the habit of one sex been inherited by the other, to the advantage of both; but the superior longevity itself appears to have had, primarily, a direct relation to the special feminine functions, while time has but evolved a much more complex adjustment of means to ends.

With our own race, Nature has handed over to the reproductive system of one sex an exceptionally large amount of work to be done, and yet she has exceptionally restricted the time for doing it. Then, in proportion to the amount of energy permanently retained for individual use, she has carefully diminished the size of the organism. Perhaps we should say rather, in view of our explanation of man's superior bulk, she has not increased the size of the organism beyond a due proportion to the amount of energy permanently devoted to indi-

vidual upholding. It follows that in any and every emergency the two systems, which have been more equally equipped in the feminine than in the masculine economy, can give to each other the more efficient aid and support at all times, and that the secondary can restore to its primary an almost entire reversion of energy in late life.

The two classes of functions are not alike continuously active. Let us recall just here that all kinds and degrees of organic dormancy short of total inactivity chiefly affect certain functions only, while other functions avail themselves of exactly that opportunity for bringing up arrears and making good an advanced position. Thus, simple rest when tired, the rest of sleep, the winter rest of trees, and the hibernation of some animals are only a few of the many forms of dormancy through which all halting energies are enabled to keep within working distance of their numerous co-laborers. Ordinary sleep, a more or less complete dormancy of the senses and the volitions, enables many of the advanced nutritive processes to be more effectually active than is possible in a waking condition. Circulation, respiration and digestion are retarded; but wearied muscles, overwrought nerves, and exhausted brain are all refreshed during sleep, as they never are when there is free expenditure in all directions.

Independent of cold, darkness, and dryness, in adaptation to which dormant habits have, doubtless in part, arisen "plants need a season of rest," in direct growth as opportunity and aid to the indirect growth of the fruit-buds, because vegetable nutrition is not simple, but double-sided, and the two divisions are not in continuous equal action. The female of the polar bear, like the plant, hibernates, that its offspring may reap the benefit; (whether the bear takes up winter quarters voluntarily or involuntarily, the results are equally an economy of nutrition;) and the dormant state of the pupa of the insect, with its sleep of the senses, forwards the development of the higher organism by suspending the use of energy in exhausting muscular and sense processes. Subjectively considered, diversity of functions not entirely adapted to work evenly and continuously together are both the occasion and the final cause of all varieties of dormancy. Excessive activity in one direction conduces to corresponding rest elsewhere, till working and resting have become alternate in all organic functions, with adapted but various periodicity in all, simultaneously or successively.

This class of adjustments, efficient in all vital processes, is conspicuously effective in the feminine constitution. Hence, the stronger

hold on life which the infant girl has in advantage over the boy. Her little life, like his, hangs suspended by a thread to its pitiless new surroundings; but the thread has two strands of nearly equal size, carefully intertwisted throughout and ready to give mutual support, and upon the one strand there is almost no present strain. The boy's life is suspended by a much larger main thread, less thoroughly intertwisted with its very much smaller companion strand, which is able to give it almost no efficient support. Hence, four hundred and nineteen boys to only three hundred and eighty-one girls out of every thousand died in the United States in 1880; and similar proportions are maintained habitually among all classes and in all times and countries about which we have information. Vital adjustments become more intimate just in proportion to their complexity and differentiation, because the laws of all growth perpetually lead in this direction. Close adaptation and co-operation within and without everywhere lead to the possibility of survival; hence, the slightly better chance of life at all ages to the female. The habitual longevity is preserved by new growing adjustments. The head wind has become the motive power to propel the ship. The antagonism has become transformed to helpful co-partnership.

In middle life, individual well-being becomes less assured to the woman. Her mental life must, in a great degree, conform itself to existing conditions; and, possibly, the whole tone of her activities, physical and psychical, is lowered and her abilities are depressed. But, when the cycle of special activities is completed and permanent dormancy begins, can there be but one result,—increased vigor to all individual power, physical and psychical? Here, we find the farther explanation of woman's pre-eminent longevity, here, the hope of a renewed and prolonged intellectual strength; here, the compensating advantages for all previous disadvantages. Nature cares no more for the female than for the male; she does care something more for the race than for either singly; and her provision for the young has given appreciable extra advantages to that parent with whom their interests are most closely allied, and the reserve of all such advantages is handed back to her late in life. The largest bud of the walnut bears the female flower; the best nurtured silk-worm grub proves to be the female; in all ranks below fishes, reptiles, and birds, the females are always larger often much larger, than the male. Then was it scientific to assume that disadvantage begins for the female among the higher races just where broader differentiations and detailed higher adapta-

tions also begin and progress upward to mankind? Instead of interfering that woman has been placed at a disadvantage in the race of life, when the subject has been brought into the domain of exact science, as it readily can be in certain directions, it may be found that she has various calculable and definite advantages over man, her now demonstrated superior longevity being one case in point. I find no evidence that, as Prof. Ward suggests in his *Dynamic Sociology*, there is an abnormal feature in the feminine constitution which has been in some sense grafted upon Nature, but subsequently adopted and adapted by her in the best way possible. On the contrary, there seems to be the clearly traceable footsteps of one steady progression upward, to the decided and increased advantage of the woman. Whether or not it will be found in time that, all things considered, the male is at a disadvantage as compared with the female of his species, there are not comparative data enough to determine. It seems probable that here, as elsewhere in all the aggregate interests of the sexes, Nature steadily maintains a constant moving equilibrium by diverse adjustments, as she does in maintaining their numerical equality in the aggregate.

Woman has less growth to make, and she has more available power to make it rapidly. She is precocious physically and mentally, and attains an earlier maturity; yet, as we have seen, she does not reach earlier physical decadence. On the contrary, her physical vigor is the more prolonged. Neither has it been found that her psychological powers have fallen below the physical in any unusual degree. In normal conditions, an accession of strength to either means an equal accession to both. The statistics which can establish the prolonged mental vigor of the woman are not abundant; yet, so far as they prove anything, they look strongly in that direction. A large percentage of the few women who have been noted as brain workers have worked easily and well till late in life, and they compare more than favorably in that respect with any equal number of men. Judging from the sustained mental alertness of the women of the last fifty years, some new light may probably be thrown upon that question, even during the lifetime of the existing generation.

